



TX-902/900

Quartz Synthesized Tuner Amplifier

Quarz-Synthesizer-Empfänger-Verstärker

Ampli-tuner à synthétiseur à quartz

Amplificador-sintonizador sintetizado por cuarzo

Quartz-Synthesizer-Tuner-Versterker

Kvarts syntestuner/förstärkare

Amplificatore sintonizzatore sintetizzato al quarzo

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- *Congratulations on your purchase of the ONKYO TX-902, TX-900 Tuner-Amplifier.*
- *Please read this manual thoroughly before making connections and turning power on.*
- *Following the instructions in this manual will enable you to obtain optimum performance and listening enjoyment from your new TX-902, TX-900.*
- *Please retain this manual for future reference.*

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Features

• Plenty of Clean Power

TX-902: 50 watts of continuous power per channel into 8 ohms with no more than 0.2% total harmonic distortion (2 × 65 watts continuous power at 4 ohms DIN)

TX-900: 40 watts of continuous power per channel into 8 ohms with no more than 0.3% total harmonic distortion (2 × 55 watts continuous power at 4 ohms DIN)

• Discrete Output Stage

Instead of the less expensive IC power amp circuitry used in some receivers, the TX-902 and TX-900 feature output stages composed of discrete components. Not just an off-the-shelf chip, the circuit design of the output stage is optimized for the specific requirements of the tuner amplifier to assure that the TX-902 and TX-900 can not only deliver sufficient power, but also safely drive even low impedance loads.

• 30-Station FM/AM Random Preset Tuning

• Classified Memory Preset

The memory presets are divided into six classes, A through F, which can be used for different types of programs (rock, news, classical, etc.). Or each member of the family can have a separate class (class A for Dad, class B for Mom, class D for Junior). Any preset station can be assigned to any class.

• Direct Access Tuning Using Numeric Buttons

Instead of using the UP or DOWN tuning buttons to scan through the available frequencies until the desired station is located, Direct Access Tuning lets you punch in the broadcast frequency directly using the numeric buttons. For example, 103.50 MHz can be selected by simply pressing the 1, 0, 3, 5 and 0 buttons.

• APR (Automatic Precision Reception) System

Onkyo's exclusive APR system lets every FM broadcast sound its best. Its built-in electronic brain monitors the signal and selects the optimum settings for RF local/DX and stereo auto/mono. The APR system settings are shown by indicators on the front panel.

• Six Program Inputs Including Video Sound with Logic Controlled Feather-Touch Keys

• Two Pairs of Speaker Output Terminals

• Loudness Control

• RI Compatible Wireless Remote Control Included (TX-902 only)

Important safeguards

"WARNING"

"TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE."

CAUTION

"TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL."

- For models having power cord with a polarized plug.

CAUTION: TO PREVENT ELECTRIC SHOCK DO NOT USE THIS (POLARIZED) PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

ATTENTION FOR BRITISH MODEL

- Replacement and mounting of an AC plug on the power supply cord of this unit should be performed only by qualified service personnel.
- **IMPORTANT:** The wires in the mains lead are coloured in accordance with the following code:
 Blue: Neutral
 Brown: Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.

The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

- This apparatus complies with requirements of EC directive 87/308/EEC.

Observe the following precautions to obtain troublefree performance for many years.

1. Avoid places subject to direct sunlight or extremely high or low temperatures.
2. Avoid damp or dusty places and places directly affected by vibrations from the speakers. In particular, avoid placing the unit on or above one of the speakers.
3. Avoid unstable locations and high places from which the unit could fall.
4. Ventilation — The unit should be situated so that its location or position does not interfere with proper ventilation. For example, the unit should not be placed on a bed, sofa, rug of similar surface that could block the ventilation openings or placed in a built-in installation, such as a bookcase or cabinet, that could impede the flow of air through the ventilation openings.
5. Heat — The unit should be situated away from heat sources such as radiators, heat registers, or other appliances (including amplifiers) that produce heat.

6. Cleaning of the internal parts should be performed only by qualified service personnel.
7. Spillage — Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through the openings.
8. Damage Requiring Service — The unit should be serviced by qualified service personnel when:
 - A. The power supply cord or the plug has been damaged; or
 - B. Objects have fallen or liquid has been spilled into the unit; or
 - C. The unit has been exposed to rain; or
 - D. The unit does not appear to operate normally or exhibits a marked change in performance; or
 - E. The unit has been dropped or the enclosure damaged.
9. Servicing — The user should not attempt to service the unit beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

Precautions

1. Warranty Card

The serial number is written on the rear panel of this unit. Copy the serial number and model number onto your warranty card and keep it in a safe place.

2. Recording Copyright

Recording of copyrighted material for other than personal use is illegal without permission of the copyright holder.

3. AC Fuse

The fuse is located inside the chassis and is not user serviceable. If power does not come on, contact your Onkyo service center.

4. Care

From time to time you should wipe off the front and rear panels and the cabinet with a soft cloth. For heavier dirt, dampen a soft cloth in a weak solution of mild detergent and water, wring it out dry, and wipe off the dirt. Following this, dry immediately with a clean cloth. Do not use rough material, thinners, alcohol or other chemical solvents or cloths since these could damage the finish or remove the panel lettering.

5. Power

WARNING

BEFORE TURNING ON POWER FOR THE FIRST TIME, READ THE FOLLOWING SECTION CAREFULLY.

- Some models are designed for use only with the power supply voltage of the region where they are sold.

European models

(except U.K.): AC230V, 50Hz

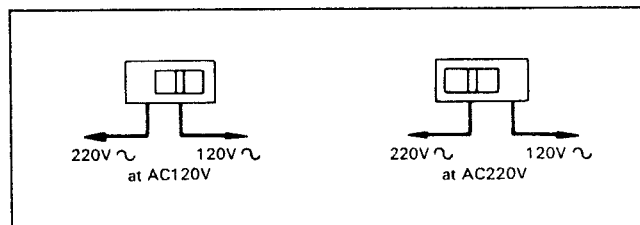
Canadian models: AC120V, 60Hz

U.K. & Australian models: AC 240V, 50Hz

Worldwide models: 120 and 220V switchable, 50/60Hz

● Voltage Selector (Rear Panel)

Worldwide models are equipped with a voltage selector to conform with local power supplies. Be sure to set this switch to match the voltage of the power supply in your area before turning the power switch on. Voltage is changed by sliding the groove in the switch with a screwdriver to the right or left. Confirm that the switch has been moved all the way to the right or left before turning the power switch on. Models without a voltage selector can only be used in areas where the power supply is the same as that of the unit.



● Tuning Step Frequency Switch (Bottom)

Worldwide models are equipped with a switch that controls the AM (9kHz/10kHz) and FM (50kHz/200kHz) band tuning steps. Be sure to set this switch to match the tuning step frequency in your area.

U.S.A. and Canada 10kHz/200kHz

Other area 9kHz/50kHz

Memory Preservation

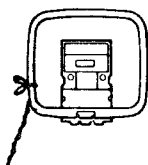
This unit does not require memory preservation batteries. A built-in memory power back-up system preserves the contents of the memory during power failures and even when the unit is unplugged. The unit must be plugged in and the power switch turned on and off once in order to charge the back-up system. Note that since this is not a permanent memory, the power switch must be turned on and off a few times each month to keep the back-up system operative.

The memory preservation period after power has been turned off varies depending on climate and placement of the unit. On the average, memory contents are protected over a period of a few weeks after the last time power has been turned off. This period is shorter when the unit is exposed to a highly humid climate.

Before using this unit

1. Supplied Accessories

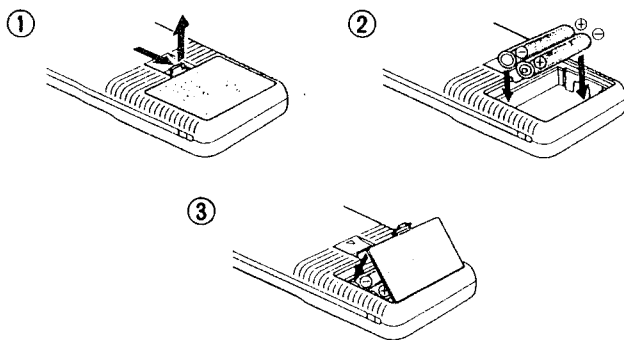
AM loop
antenna × 1



T-shaped FM
antenna × 1



2. Transmitter Battery Insertion (TX-902 only)

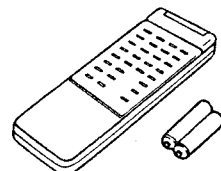


- ① Push the battery cover on the rear of the transmitter in the direction of the arrow and lift it up.
- ② Load the two batteries that came with the transmitter or two batteries listed in the table. Load them with the + and - ends facing as shown in the diagram.
- ③ Put the battery cover back in place.

TX-902 only

RI remote control cable × 1
(RI : Remote Interactive)

Remote control transmitter × 1
Battery × 2



Use of Batteries

- The remote control transmitter is powered by two batteries. Before using this unit for the first time, insert the two batteries (included) as shown in the diagram.
- Average battery life is about one year. This period may be shorter depending on the frequency of use and environment (temperature and humidity) in which the remote control transmitter is used.
- If the remote control transmitter does not operate even though front panel controls function normally, the batteries should be replaced. Use only batteries listed in the following chart.

Type	Voltage	Size
Manganese	1.5V	AA R6 UM-3

NOTES:

1. Do not leave an expired battery in the case as it may leak or damage the battery case.
2. When inserting the batteries, be sure the (+) and (-) ends are properly aligned.
3. Do not use nickel-cadmium (rechargeable) batteries.
4. Do not use one specified (manganese) battery and one alkaline battery at the same time.
5. Replace both batteries at once; do not use one old and one new battery together.

System connections

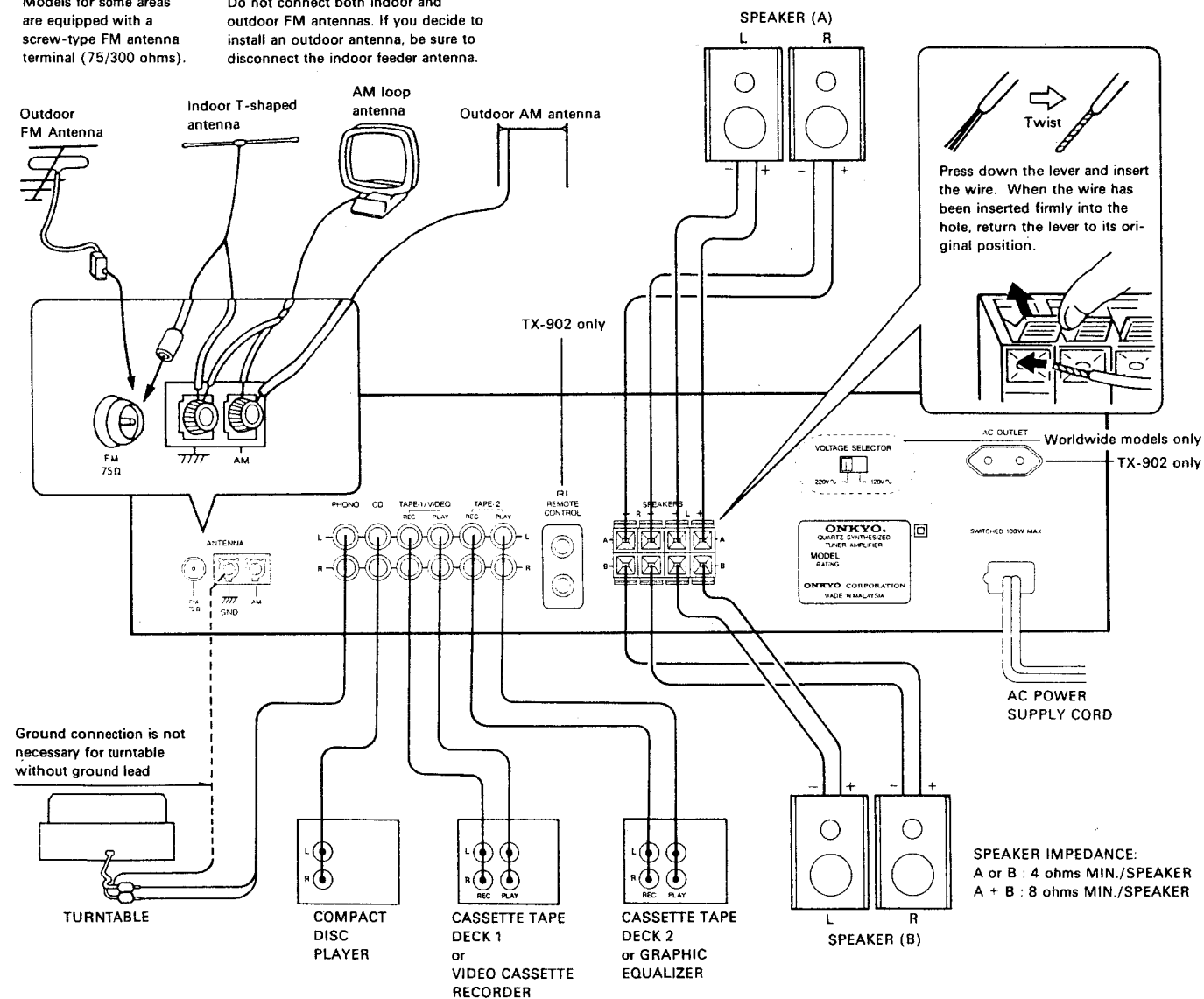
Do not plug in the cord until all connections have been made.

General

Switch the main power switch off before performing connections.
Also be sure to perform left and right channel connections properly.

Models for some areas are equipped with a screw-type FM antenna terminal (75/300 ohms).

Do not connect both indoor and outdoor FM antennas. If you decide to install an outdoor antenna, be sure to disconnect the indoor feeder antenna.

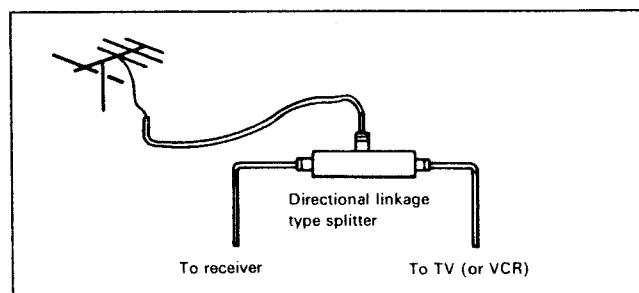


FM Antenna Connections

Use the T-shaped antenna if you live in an area where signal strength of FM broadcasts is high. Connect the antenna to the FM 75 ohms terminals and place the antenna on a wall or other surface in the position in which reception is best. If signal strength is low in your area, use a multi-element FM outdoor antenna. Consult your Onkyo authorized service center about the right type of antenna for your area.

NOTES:

1. Do not connect both the indoor T-shaped antenna and an outdoor FM antenna. If you decide to install an outdoor antenna, be sure to disconnect the indoor T-shaped antenna.
2. Do not use the same antenna for both FM and TV reception since the FM and TV signals can interfere with each other. If you must use a common FM/TV antenna, use a directional linkage type splitter.

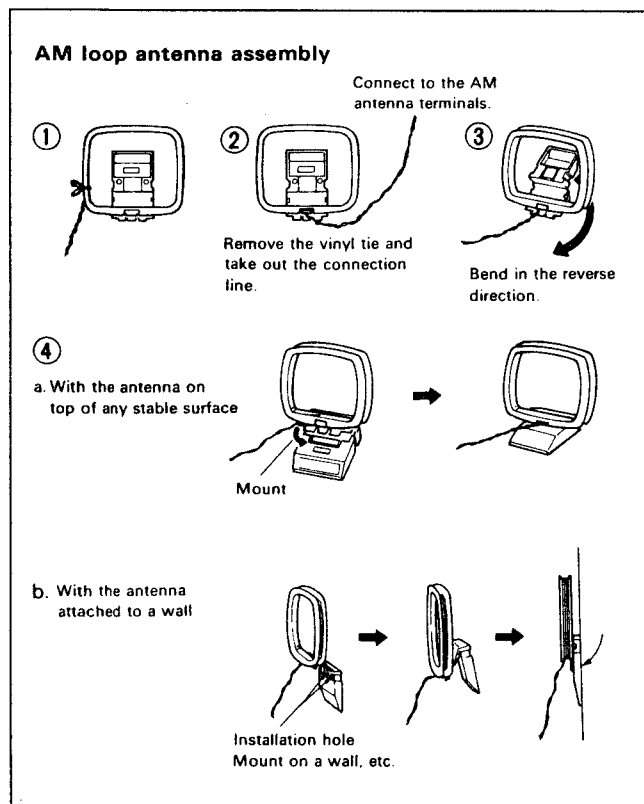


AM Antenna Connections

An AM loop antenna is included in the installation instructions bag. Take out the connection line and connect it to the AM antenna terminals. This loop antenna can be placed on top of any stable surface or attached to a wall. Try several positions to determine which gives the best reception. Be sure the antenna is not near a speaker, power cord, television set, VCR, or motorized appliances. When using an external AM antenna, do not remove the loop antenna; connect both antennas to the AM antenna terminals.

NOTE:

AM reception is easily affected by television sets and VCRs. Therefore, AM reception may be poor if this unit is placed too close to a TV or a VCR.



Turntable Connections (PHONO)

Connect the output leads of the turntable to the PHONO jacks. Be sure to connect the ground (earth) lead wire from the turntable to the ground terminal (GND) (Antenna terminal). Lack of proper ground connection will cause hum. Turntables not provided with GND wires do not need to be connected.

1. Place the turntable on a firm shelf or deck free from vibrations (especially those generated by the speaker system). If the turntable is permitted to pick up such unwanted vibrations, not only will the performance of the unit drop, but distortion in the bass frequencies and howling in the speakers may also occur.
2. Check the turntable instruction manual for any other precautions.
3. The loud noises that occur when connecting and disconnecting the turntable leads, replacing the cartridge or lowering the tonearm could damage the speakers. Always turn the power switch off before making connections.
4. If an Onkyo turntable with remote control jack is used with this unit, the remote control transmitter can also be used to start and stop turntable operation. In this case, the turntable and TX-902 must be connected with a remote control cable. Insert the plug into the PHONO jack of the REMOTE CONTROL on the rear panel of the TX-902. (Please refer to "Connections for Remote Control on page 6.) (Canadian models only)

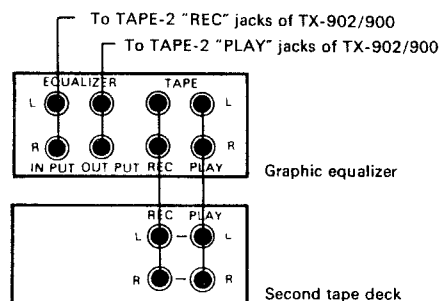
Compact Disc Player or Other Component Connections (CD)

Connect the output leads of the CD player or an additional audio component to the CD jacks. An Onkyo CD player with remote control that has the **RI** mark can be operated by the TX-902. (Please refer to "Connections for Remote Control" on page 6.) For more details, refer to your CD player instruction manual.

Tape Deck and Graphic Equalizer Connections (TAPE-1, TAPE-2)

1. This unit has facilities for two tape decks. If you are using only one tape deck, connect it to the TAPE-1/VIDEO jacks. If you have two tape decks, connect one to the TAPE-1/VIDEO jacks and the other to the TAPE-2 jacks.
2. Connect the output leads of the tape decks to the TAPE-1/VIDEO and TAPE-2 "PLAY" jacks. Connect the input leads of the tape decks to the TAPE-1/VIDEO and TAPE-2 "REC" jacks of the unit. For more details, refer to your tape deck instruction manual.
3. To connect a graphic equalizer, too, use the TAPE-2 jacks and connect the second tape deck to the tape jacks of the equalizer. (See the figure)

To connect a graphic equalizer and second tape deck to the TAPE-2 jacks.



4. For the audio signal of a VDP, VCR, etc., make the connections to the TAPE-1/VIDEO "PLAY", "REC" jacks. For details, refer to the operating instructions of the video equipment concerned.
5. If you have an Onkyo tape deck with the **RI** remote control jack, connect it to the TAPE-1/VIDEO jacks. Please refer to the section "Connections for Remote Control" on page 6 regarding connection of the remote control cable. (TX-902 only)

Speaker Connections (SPEAKERS)

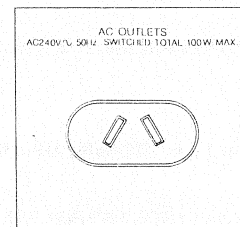
1. Connect the speakers to A and/or B terminals.
2. When connecting speakers, proper polarity is important. Always connect the (+) terminal (red) on this equipment to the (+) terminal on the speaker and the (-) terminal (black) on this equipment to the (-) terminal on the speaker.
3. Do not connect a single speaker in parallel to the right and left channel outputs.
4. Use speaker cables that have a low impedance and that are as short as possible.
 - Attach speaker cables to the rear panel speaker terminals with care, being sure that connections are made firmly and that there is no possibility of a short circuit occurring.

AC Outlets

● SWITCHED: (TX-902 only)

An AC outlet is switched on and off by the Power button on the front panel and remote control transmitter. Capacity is 100 watts.

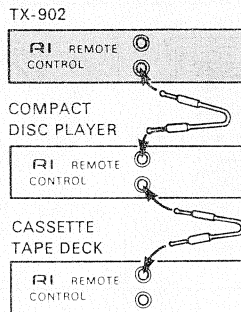
Australian model
(TX-902 only)



(TX-902 only)

Connections for Remote Control (REMOTE CONTROL)

- The upper and lower **RI** remote control jacks have the same function.
- A cassette tape deck and compact disc player that have the Onkyo **RI** mark can be operated, using the accessory remote control transmitter.



An **RI** remote control cable equipped with a 1/8" (3.5mm) diameter miniature two-conductor phone plug is attached to the TX-902 and to any compact disc player, with the **RI** mark.

To use an Onkyo compact disc player and cassette tape deck with the **RI** mark, insert the accessory remote control cable plug into the REMOTE CONTROL jacks. As far as connecting sequence is concerned, it doesn't matter whether the cable is connected from the TX-902 to the cassette tape deck or to the compact disc player. The remote control transmitter is operated by facing it towards the remote control sensor of the TX-902.

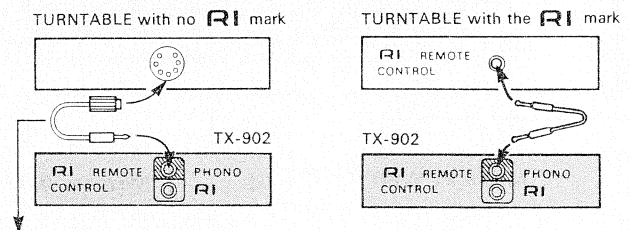
NOTE:

Remote control operation is not possible when only the remote control cable is connected. Remote control cable and pin cord must be connected.

Canadian models only

If you own a Canadian model of the TX-902, the Onkyo turntable can be operated, using the accessory remote control transmitter.

- If your turntable has an **RI** mark on it, insert the accessory **RI** remote control cable plug attached to the Onkyo turntable with the **RI** mark into the PHONO of the TX-902's REMOTE CONTROL.
- Onkyo turntables that can be remote controlled but do not have the **RI** mark. This equipment has a 7-pin DIN jack on the rear panel. Connect this jack and the jack on the rear of the TX-902 with the special cable for this purpose, which is sold separately.



For this special cable.
Contact an Onkyo Service Center.
For a turntable
(3.5 mm pin to 7-pin plug cable)
part number: 2010140

Direct function feature

NOTE:

This function works when an Onkyo cassette tape deck or CD player with the **RI** mark is connected to a TX-902 with an **RI** remote control cable.

Just by directly operating the desired component (compact disc player, or tape deck), the TX-902's input selector automatically switches to that component. The component that was being used stops, and the desired component starts operation. Therefore, it is not necessary to switch the TX-902's input selector when changing listening sources.

Example

When the compact disc player's play button is pressed, the TX-902's input selector will switch automatically to "CD." If the current listening source was a tape deck, tape playback will stop and the compact disc player will start playing.

NOTE:

The direct function feature does not apply to turntable.

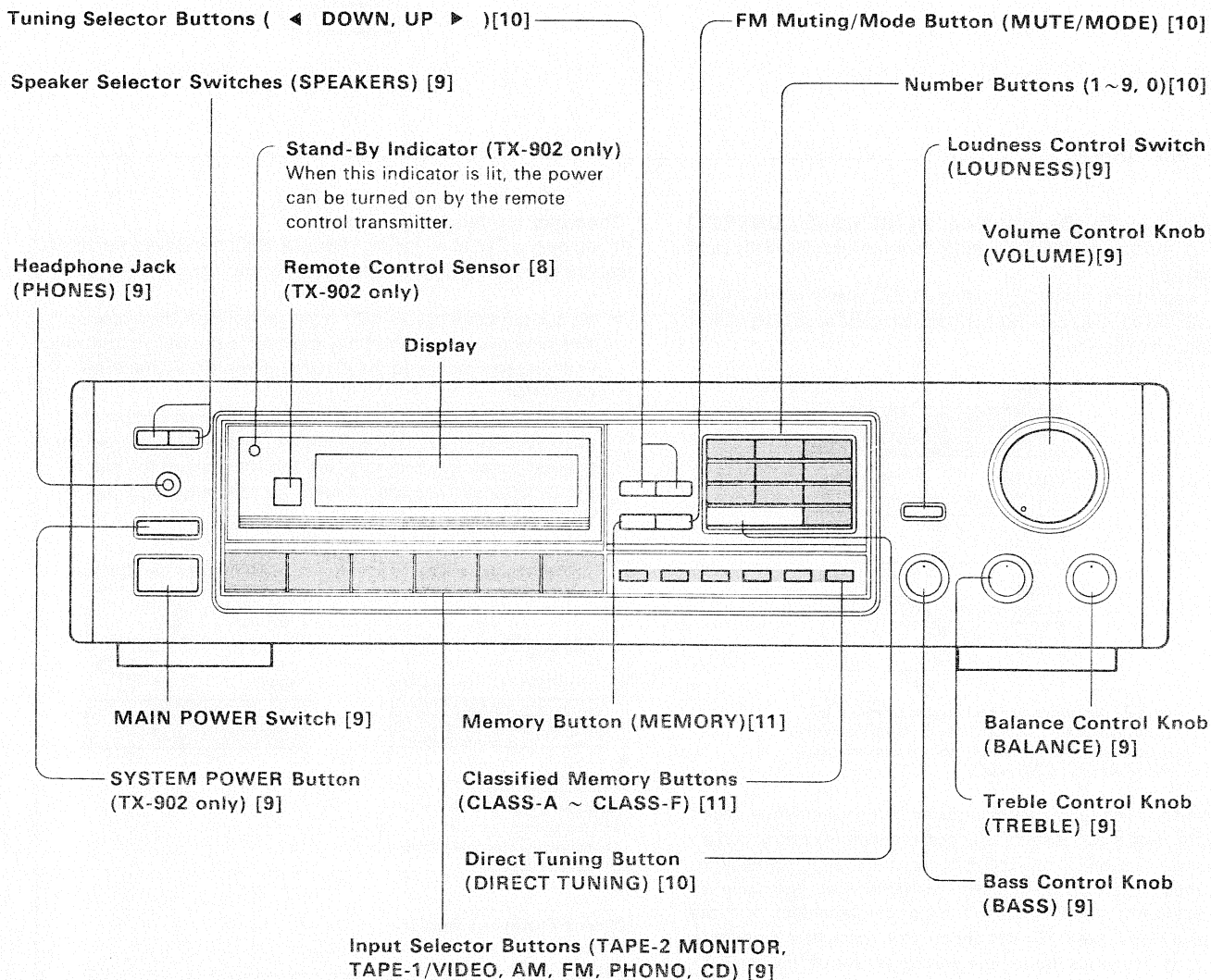
Control positions and names

NOTE:

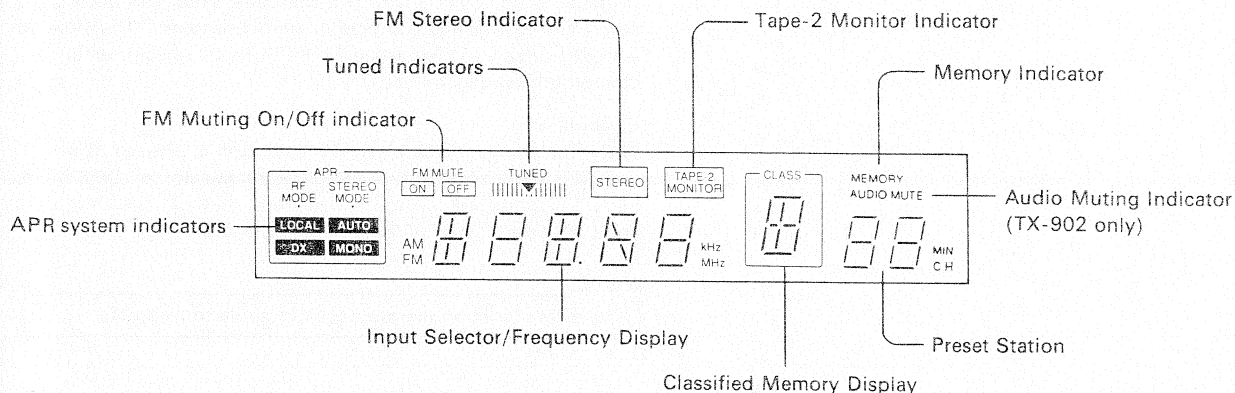
- The features, specifications, and display for the TX-902 and TX-900 are slightly different. Read this manual carefully to operate the model you have purchased correctly.

Front panel

For more information about buttons or controls, turn to the page number listed in the [].



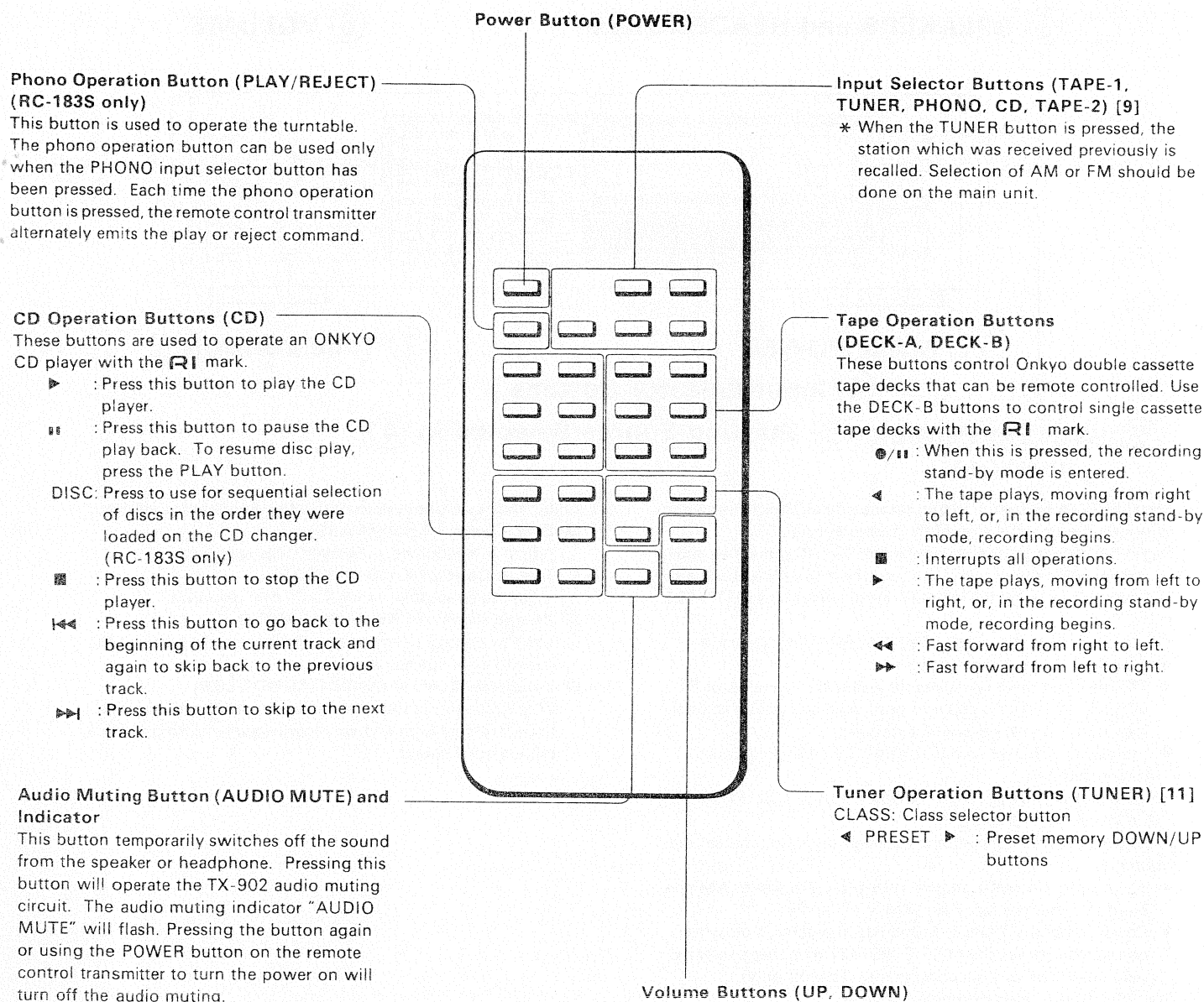
Display and indicators



Remote control transmitter (TX-902 only)

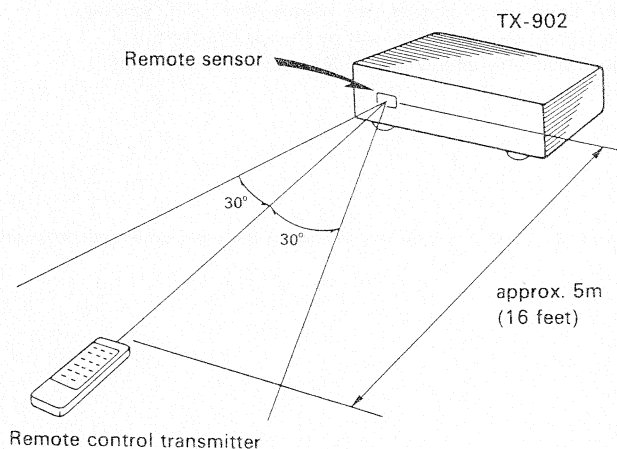
- The tuner amplifiers are provided with the following remote control transmitters:

USA and Canadian models..... RC-183S
other area models..... RC-184S



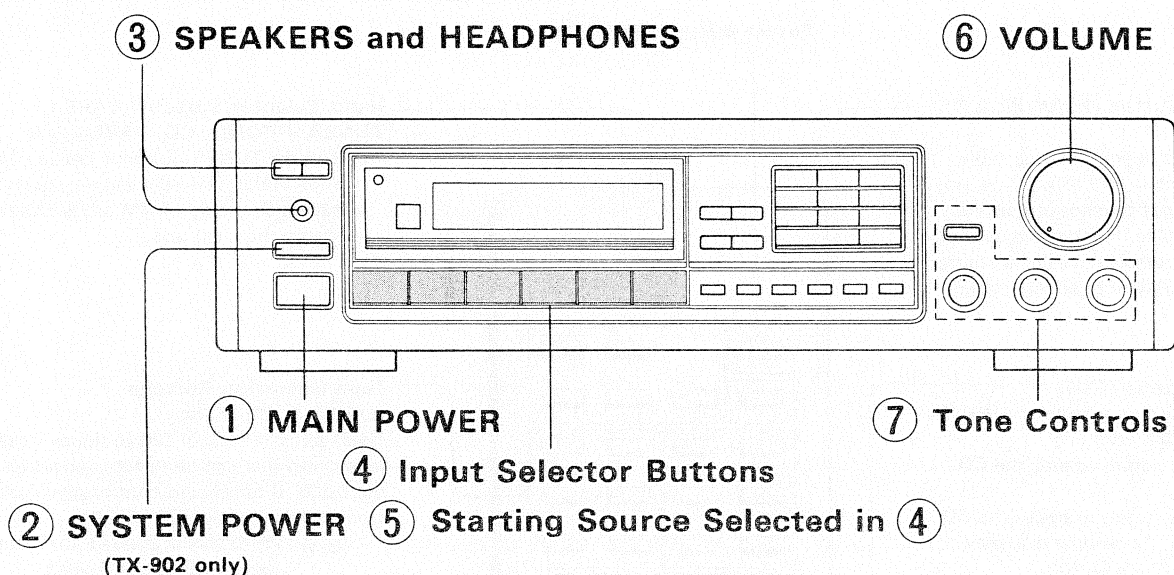
Using the remote control transmitter

1. Remove the batteries if the remote control transmitter is not going to be used for a long time.
2. The batteries of the remote control transmitter must be replaced periodically.
3. This unit uses infrared rays. Therefore, commands may not be received properly if the front panel of this unit is exposed to bright light. To prevent this from occurring, place this unit so that it is not directly exposed to bright light.
4. If this unit is placed inside an audio rack behind a glass door, the door should not have colored glass or have any decorations on it, since this could shorten the range or prevent commands from being received.
5. Use of other infrared remote control devices in the same room may cause interference.
6. The transmitter operates up to a distance of about five meters (16 feet). The transmitting window must always be pointed at the reception window when a command is sent to the TX-902.
7. If this remote control transmitter does not operate properly, confirm that the batteries are not dead. If the problem persists, contact your Onkyo Service Center.



Operations

To listen to your favorite Source



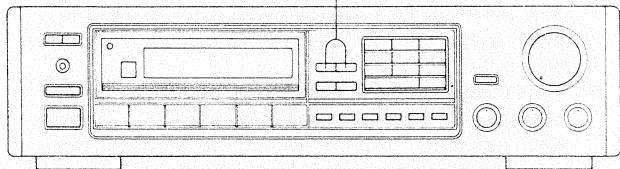
- ① Press the POWER switch to turn on the power. Press this switch to switch the on/off status of the power supply.
- ② Press this button to turn on power and the AC outlets on the rear panel when the unit is in the standby mode. Power can also be turned on by using the remote control power button (TX-902 only)
- ③ Select the desired pair of speakers by depressing the corresponding speaker selector switch.
 - This unit can drive two pairs of speakers in pairs (A or B) or fours (A + B). To listen to both speaker systems at once, depress both speaker selector switches.
 - Stereo headphones with a standard binaural plug can be connected here.
- ④ Press one of the desired Input Selector Button (CD, PHONO, FM, AM, TAPE-1/VIDEO).
Make sure that the connections between the input sources are correct.
 - The button pressed is shown in Display. For FM or AM, the band and the frequency are shown in Display.
 - Confirm that the TAPE-2 MONITOR indicator is off when a source other than the TAPE-2 MONITOR has been selected. Also check the audio muting is off. (TX-902 only)
- ⑤ Start play of the selected input source.
 - Follow the operating instructions of that unit.
 - If FM or AM is selected, please refer to the section "Tuner Reception".
- ⑥ Adjust the Volume Control knob to the appropriate level.
 - Turn clockwise to increase the volume level. The volume can be adjusted manually and by the remote control transmitter's Volume UP/DOWN button. (TX-902 only)
- ⑦ Adjust the Tone Controls to obtain the desired tone setting.
 - **Bass Control Knob (BASS)**
Adjust to strengthen or weaken bass response.
 - **Treble Control Knob (TREBLE)**
Adjust to strengthen or weaken treble response.
 - **Balance Control Knob (BALANCE)**
Use this control to adjust the relative volume levels of the left and right speaker systems.
 - **Loudness Control Switch (LOUDNESS)**
When listening at low volume levels, depress this switch to boost the very high and very low frequencies to provide a more natural sound.

Tuner Reception


Press the FM or AM Input Selector button and make sure that the TAPE-2 MONITOR indicator is off and audio muting is off.

■ Tuning with the TUNING buttons

◀ DOWN, UP ▶

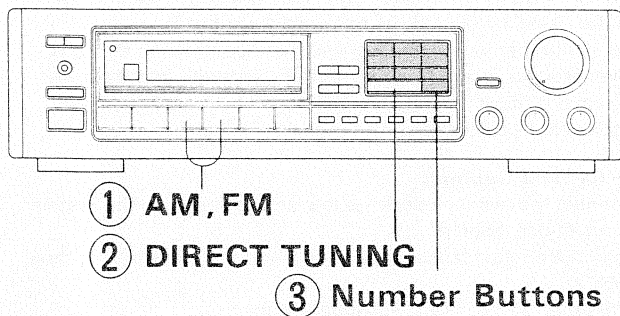


To tune in an FM or AM station not stored in the memory, press one of the Tuning selector buttons. If you press UP, the frequency is increased. Pressing DOWN decreases. Note that the frequency is changed in 50kHz (or 200kHz) steps in FM and 9kHz (or 10kHz) steps in AM when the Tuning selector button is pressed in single steps. If this button is pressed continuously for more than 0.5 seconds, the auto tuning mode is entered, and frequencies are scanned automatically. When a broadcast signal is received, scanning stops and that frequency is displayed. If a different frequency is desired, press the button once again.

- The Tuned indicators  will light if the broadcast is being properly received. These indicators do not light for weak broadcasts. The red "▼" indicator blinks during scanning. To receive a weak FM broadcast, set the MUTE/MODE button to the OFF position and select the frequency of the desired broadcast station.

■ Receiving a station by inputting the frequency for the station directly (Direct Tuning)

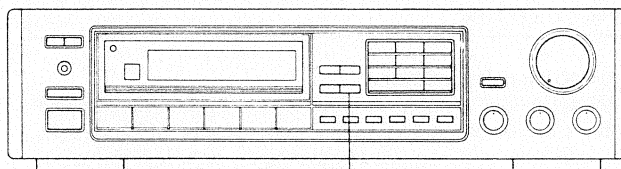
If the frequency for the desired station is known, input the frequency number directly.



- ① Press the AM or FM button of the Input selector buttons.
- ② Press the DIRECT TUNING button.
 - "--" or "--" will flash for 16 seconds in the Frequency Display.
- ③ Input the desired frequency number by using the Number Buttons while the cursors are flashing. For instance, if you wish to receive the station of 88.10MHz, press the Number Buttons, 8, 8, 1 and 0.
 - In areas where AM frequencies are set in 10kHz steps, inputting a number to the 10kHz digit sets 0 to the 1kHz digit automatically.
 - If the desired frequency set in this operation does not exist, the frequency which is the nearest and lower than the desired frequency will be received. If the frequency set is not in the receive frequency range, the frequency flashes for two seconds and then the previous frequency will be displayed.
 - If a wrong frequency has been set, press the DIRECT TUNING button and start again.

■ How to use the FM Muting/Mode Button (MUTE/MODE)

In the Muting ON (STEREO) setting, FM stereo reception is possible and the muting circuit suppresses interstation noise and weak FM stations. In the OFF (MONO) setting, interstation noise will be heard and even weak FM stations can be received. (Muting/Mode operation is effective for only FM reception.)



MUTE/MODE

- The Stereo indicator will light up if the broadcast is being received in stereo. The Stereo indicator will not light up if the broadcast is monaural or too weak to be received in Stereo.

Automatic Precision Reception System (FM Mode)

APR system is Onkyo's unique computer-controlled system. APR system automatically sets the RF stage gain (Distance/Local), stereo/mono reception modes to the proper settings for the quality of the broadcast currently being received. This indicator changes each time the APR circuit switches between the LOCAL/DX or AUTO/MONO to show the current APR setting. (APR system is effective for only FM reception.)

NOTES:

- When FM MODE button is not AUTO, the APR Mode selection function does not operate, and the STEREO MODE indicator is forced to "MONO".
- The "MONO" indicator lights up for FM monaural reception.
- The RF MODE will indicate LOCAL when sufficient signal is received.

Classified Memory Function

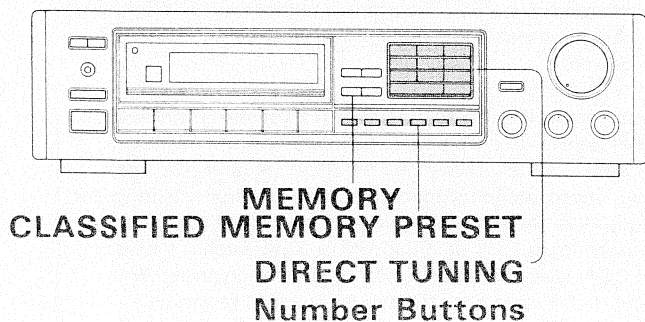
The memory can be divided (classified) for different users or programs of stations.

NOTE:

There are times when frequencies are left in the machine's memory from the final testing done prior to shipment. If this is the case with your TX-902/900, cancel unnecessary preset stations according to "How to cancel memorized stations" and memorize desired frequencies.

How to classify stations

With this model, six classes (CLASS A to F) are available and stations can be memorized in any class. A total of 30 stations can be memorized in classes from A to F. Although the same station can be memorized in different classes, the memory number for the station will differ depending on the order in which the station is memorized in the classes.

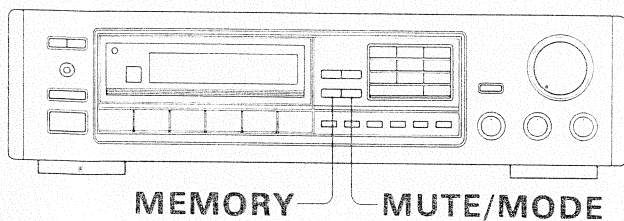


- ① Tune in the desired station (see section on "Tuner Reception").
- ② Press the MEMORY button.
 - The MEMORY indicator will flash for 8 seconds.
- ③ Press the desired Classified Memory button (one of buttons A to F).
 - The station is memorized in the selected class with the memory number which is the smallest of the unoccupied numbers in the class.

By repeating the operations above, up to 30 stations can be memorized. If an attempt is made to memorize 31 stations or more, "FULL" will be displayed in the Input Selector/Frequency Display, indicating that no more stations can be memorized.

How to cancel memorized stations

Retrieve the class number you want to cancel (see "How to retrieve memorized stations") and then press the MUTE/MODE button while holding down the MEMORY button. Another station can be memorized with the memory number which has been cancelled.



How to retrieve memorized stations

- ① Press the Classified Memory button for the desired class. If remote control is used, the class next to the present one is retrieved when the CLASS button is pressed. (TX-902 only)
 - The memory number (station) which was being received before the class is retrieved will be received.
- ② There are several methods to proceed after the above operations are carried out. Use any of the following methods.
 - a. Pressing the same Classified Memory button again permits the next preset memory number (station) to be received.
 - b. Input the memory number you wish to receive by using the Number buttons.
 - If the memory number consists of 2 digits, input two numbers, immediately one after the other. For instance, when inputting "15", "15" will not be registered if you wait more than one second before inputting "5", resulting in only "1" being registered.
 - If a number other than a number from 1 to 30, or a number which has not been memorized is input, the number flashes for 2 seconds and then the number which was displayed before will be displayed.
 - If a number between 1 and 3 is pressed, the display and station are changed 1 second later.
 - c. When the ◀ PRESET ▶ button of the remote controller is pressed, the memory number of the class currently being received will be incremented or decremented. Keeping pressing the button increments or decrements continuously. After the maximum or minimum number is reached, the next class or one before the present class will be entered. (TX-902 only)

Tape Recording

- ① Make all connections between the tape deck and the unit as shown in the System Connections Diagram.
- ② Radio: Press the FM or AM Input Selector button.
Record: Press the PHONO Input Selector button.
CD: Press the CD Input Selector button.
- ③ Put the tape deck in the recording mode. The recording can be monitored through the speakers or headphones as desired. For TAPE-2, turn on the corresponding Tape Monitor button to hear the signal that, having been recorded, is returned from the deck to the TX-902/900. (if the deck has three heads).
- ④ Set the proper recording level using the controls on the tape deck used for recording. Also, during recording and dubbing operations, never change the positions of any controls (bass, treble, etc.) on this unit.

Tape-to-Tape Dubbing

- ① Connect the two tape decks to this unit as shown in the System Connections diagram.
- ② Load the original tape in tape deck 1 and the blank tape in tape deck 2.
- ③ Press the TAPE-1 Input Selector button.
- ④ Put tape deck 1 in the playback mode and tape deck 2 in the recording mode.
- ⑤ The source signal can be monitored through the speakers or headphones, when the TAPE-2 MONITOR button is in the OFF position. If tape deck 2 has three heads, the just-recorded signal can be monitored (when the TAPE-2 MONITOR button is in the ON position). Refer to the tape deck instruction manuals for more details.

Using the Graphic Equalizer

- ① Connect the graphic equalizer to the TAPE-2 jacks on the rear panel.
- ② If a second tape deck is used, connect it to the tape jacks on the graphic equalizer.
- ③ Press the TAPE-2 MONITOR button.
- ④ Follow the graphic equalizer operating instructions.
- ⑤ To record an equalized signal, use tape deck 2 (connected to the equalizer) for recording.

Trouble shooting guide

NOTE (TX-902 only):

If a problem occurs, first operate the unit using the front panel controls to confirm that it is not due to a malfunction (or worn out batteries) of the remote control transmitter.

Trouble	Cause	Remedy
No power.	<ul style="list-style-type: none"> ● Power cord is disconnected. ● AC fuse blown. 	<ul style="list-style-type: none"> ● Connect power cord. ● Contact Onkyo Service Center.
Power but no sound.	<ul style="list-style-type: none"> ● Tape monitor switch on. ● Audio muting switch on. (TX-902 only) ● Bad connections. ● Amplifier protection circuitry has been activated. 	<ul style="list-style-type: none"> ● Switch to off. ● Switch to off by remote control transmitter. ● Check input leads, speaker leads, pin plugs, etc. ● Contact Onkyo Service Center.
Hum, low frequency noise.	<ul style="list-style-type: none"> ● Poor or no input ground. ● Poor or no phono motor ground. 	<ul style="list-style-type: none"> ● Check outer conductor of input plugs. ● Check for proper ground connection.
Howling when the volume is turned up.	<ul style="list-style-type: none"> ● Turntable and speakers are too close together. 	<ul style="list-style-type: none"> ● Move them farther apart.
Rough or scratchy sound. High range is not clear.	<ul style="list-style-type: none"> ● Stylus of pick-up is worn. ● Stylus tip is dirty. ● Treble control too high. 	<ul style="list-style-type: none"> ● Replace. ● Clean. ● Turn treble control down.
AM stations cannot be received.	<ul style="list-style-type: none"> ● AM loop antenna is not attached. 	<ul style="list-style-type: none"> ● Connect the included AM loop antenna to the AM antenna terminals.
Buzzing noise on AM (particularly conspicuous at night or with weak stations).	<ul style="list-style-type: none"> ● Noise from electrical apparatus such as fluorescent lamp. 	<ul style="list-style-type: none"> ● Move AM loop antenna to different position. ● Set up outdoor AM antenna.
High pitched noise or buzzing noise on AM.	<ul style="list-style-type: none"> ● Noise from TV. 	<ul style="list-style-type: none"> ● Place the AM loop antenna as far as possible from the TV. ● Move unit away from TV set.
Crackling noise on AM and FM.	<ul style="list-style-type: none"> ● Noise caused by turning fluorescent lamp on and off. ● Noise from automobile ignition. 	<ul style="list-style-type: none"> ● Move antenna as far as possible from the fluorescent lamp. ● Install an FM outdoor antenna as far as possible from the road. ● Change the position or direction of the outdoor antenna.
FM tuned and stereo indicators light but sound is distorted and stereo separation is bad.	<ul style="list-style-type: none"> ● Station is too strong. ● Multiple reflection of the radio waves because of tall buildings or mountains. 	<ul style="list-style-type: none"> ● Change to T-shaped antenna. ● Use antenna which has better directivity and select a point where the distortion is least.
FM tuned and stereo indicators flicker on and off and hiss is heard on FM.	<ul style="list-style-type: none"> ● Station is too weak. ● Stereophonic FM broadcasts cover only about half the distance of an ordinary broadcasts. 	<ul style="list-style-type: none"> ● Install an outdoor FM antenna. ● Change the position or direction of the outdoor antenna.
No station is recalled when a preset station number is input.	<ul style="list-style-type: none"> ● The power switch has not been turned on for a long time or the power cord has been unplugged for a long time. 	<ul style="list-style-type: none"> ● The memory contents are lost if the power switch is not turned on a few times each month. Store all stations again and remember to turn the power on a few times each month.
Front panel controls function but remote control transmitter does not. (TX-902 only)	<ul style="list-style-type: none"> ● No batteries in remote control transmitter. ● Batteries have worn out. 	<ul style="list-style-type: none"> ● Insert batteries. ● Replace batteries.

The tuning steps by which the tuned frequency changes on each band have been set at the factory to the proper value for the country where each unit is to be sold. If you use the unit in a country where a different tuning step is required or if the broadcast frequencies in your country change so that you can not tune in radio stations precisely, contact your authorized Onkyo Service Center.

Specification

AMPLIFIER SECTION

	TX-902
Power Output:	50 watts per channel, min. RMS, at 8 ohms, both channels driven, from 40Hz to 20kHz, with no more than 0.2% THD.
Musical Power Output:	2 × 120 watts at 4 ohms, 1kHz (DIN) 2 × 80 watts at 8 ohms, 1kHz (DIN)
Continuous Power Output:	2 × 65 watts at 4 ohms, 1kHz (DIN) 2 × 55 watts at 8 ohms, 1kHz (DIN)
Total Harmonic Distortion:	0.2% at rated power 0.1% at 30 watt output
IM Distortion:	0.2% at rated power 0.1% at 30 watt output
Damping Factor:	50 at 8 ohms
Frequency Response:	20 – 30,000 Hz ± 1dB
RIAA Deviation:	20 – 20,000 Hz ± 0.8dB
Sensitivity and Impedance:	Phono: 2.5mV/50 kohms CD/Tape Play: 150mV/50 kohms Tape Rec: 150mV/3.5 kohms
Phono Overload:	120mV RMS at 1kHz, 0.2% THD
Signal-to-Noise Ratio:	Phono: 80dB (at 5mV input, IHF-A) CD/Tape: 100dB (IHF-A)
Tone Controls:	Bass: ± 10dB at 100Hz Treble: ± 10dB at 10kHz
Muting:	— ∞

TUNER SECTION

FM:

	European models:	European models:
Tuning Range:	87.5 — 108.0MHz (50kHz steps)	87.5 — 108.0MHz (50kHz steps)
	Canadian models:	Canadian models:
	87.9 — 107.9MHz (200kHz steps)	87.9 — 107.9MHz (200kHz steps)
Usable Sensitivity:	Mono: 12.4dBf, 1.2μV, 75 ohms 1.2μV (S/N 26dB, 40kHz Devi.) 75 ohms DIN	Mono: 12.4dBf, 1.2μV, 75 ohms 1.2μV (S/N 26dB, 40kHz Devi.) 75 ohms DIN
	Stereo: 19.2dBf, 2.5μV, 75 ohms 25μV (S/N 46dB, 40kHz Devi.) 75 ohms DIN	Stereo: 19.2dBf, 2.5μV, 75 ohms 25μV (S/N 46dB, 40kHz Devi.) 75 ohms DIN
50dB Quieting Sensitivity:	Mono: 18.2dBf, 2.2μV, 75 ohms	Mono: 18.2dBf, 2.2μV, 75 ohms
Capture Ratio:	Stereo: 38.2dBf, 22μV, 75 ohms	Stereo: 38.2dBf, 22μV, 75 ohms
Image Rejection Ratio:	1.5dB	1.5dB
IF Rejection Ratio:	85dB	85dB
Signal-to-Noise Ratio:	90dB	90dB
Selectivity	Mono: 70dB	Mono: 70dB
AM Suppression Ratio:	Stereo: 65dB	Stereo: 65dB
Harmonic Distortion:	50dB DIN (±300kHz, 40kHz dev.)	50dB DIN (±300kHz, 40kHz dev.)
	50dB	50dB
Frequency Response:	Mono: 0.15%	Mono: 0.15%
Stereo Separation:	Stereo: 0.30%	Stereo: 0.30%
	30 – 15,000Hz ± 1.5dB	30 – 15,000Hz ± 1.5dB
	40dB at 1kHz	40dB at 1kHz

AM:

	European models:	European models:
Tuning Range:	522 — 1611kHz (9kHz steps)	522 — 1611kHz (9kHz steps)
	Canadian models:	Canadian models:
	530 — 1710kHz (10kHz steps)	530 — 1710kHz (10kHz steps)
	Saudi Arabia & Worldwide models:	Saudi Arabia & Worldwide models:
	531 — 1602kHz (9kHz steps)	531 — 1602kHz (9kHz steps)
Usable Sensitivity:	30μV	30μV
Image Rejection Ratio:	40dB	40dB
IF Rejection Ratio:	40dB	40dB
Signal-to-Noise Ratio:	40dB	40dB
Harmonic Distortion:	0.8%	0.8%

GENERAL

	European models:	European models:
Power Supply:	AC230V, 50Hz	AC230V, 50Hz
	Canadian models: AC120V, 60Hz	Canadian models: AC120V, 60Hz
	U.K. & Australian models: AC 240V, 50Hz	U.K. & Australian models: AC 240V, 50Hz
	Worldwide models: 120 and 220V switchable, 50/60Hz	Worldwide models: 120 and 220V switchable, 50/60Hz
Dimensions (W × H × D):	455 × 120 × 316 mm	455 × 120 × 310 mm
	17-15/16" × 4-6/8" × 12-7/16"	17-15/16" × 4-6/8" × 12-7/16"
Weight:	7.8 kg., 17.2 lbs.	7.0 kg., 15.4 lbs.

Remote control transmitter RC-183S/RC-184S (TX-902 only)

Transmitter:	Infrared
Signal range:	Approx. 5 meters (16ft. 4")
Power supply:	Two "AA" batteries (1.5V × 2)

Specifications and features are subject to change without notice.